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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,322	03/26/2004	Donald Herzog	12500.V2018	8016

7590 12/26/2007  
SPECKMAN LAW GROUP PLLC  
Suite 330  
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Seattle, WA 98101

EXAMINER
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LAMPRECHT, JOEL

ART UNIT	PAPER NUMBER
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3737

MAIL DATE	DELIVERY MODE
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12/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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**Office Action Summary**

Application No.

10/810,322

Applicant(s)

HERZOG ET AL.

Examiner

Joel M. Lamprecht

Art Unit

3737

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/13/05</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 4 and 13 are objected to because of the following informalities: It is unclear exactly what physical limitation or further method is set by the use of "three rows", as row is an unclear term and is earlier used to define a direction, and a general phased array with no size constraint. Appropriately, one of ordinary skill in the art would thereby define three rows as any three phased arrays in some arbitrary (row) direction. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification fails to disclose or teach resolving a blood vessel's position from a closely spaced second blood vessel.

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 4-7, 9, 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Fraser et al (US 6,375,617 B1). Fraser et al disclose the use of 1.5D array probe with an array of transducer elements (Col 8 Line 45-Col 9 Line 25), comprising a limited number of rows (Fig 13, Col 8 Line 47-55, Col 12 Line 35-45), which transmits pulses to a subject, receives Doppler reflections (Col 7 Line 20-35), forms receive beams (Col 14 Line 60-Col 16 Line 25, Col 12 Line 20-45), steers the beams to determine a coordinate position (Col 6 Line 60-Col 7 Line 20, Col 16 Line 1-25), uses Doppler power processing for position determinations (Col 7 Line 50-Col 8 Line 45), and finally uses time delay data (Col 11 Line 45-Col 12 Line 18) for the purpose of eventually forming blood vessel position data (Col 8 Line 5-45). Fraser et al also disclose displaying and storing the images in a Doppler image memory (Col 8 Line 4-6, Col 12 Line 48-Col 13 Line 27).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-3, 8 and 10-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Fraser et al (US 6,375,617 B1) in view of Nudell et al (US 5,085,220). Fraser et al disclose all that is listed above but fail to disclose a monopulse technique for Doppler beam alignment. Fraser et al do disclose the use of a minimally steered array (called a 1.75 array) in a second direction for the purpose of acquiring receive beams, but doesn't explicitly discuss power calculations as they are only a part of what the system calculates. Attention is then directed to the secondary reference by Nudell et al which discloses a system where the power calculation is discussed and a monopulse alignment technique is performed (Col 11 Line 60-Col 13 Line 32, Col 8 Line 60 – Col 9 Line 15). Nudell et al use multiple beams from opposite sides to confirm positioning relative to the Doppler power signal received by each beam (Col 12 Line 40-52). The difference is driven to zero by using this overlapping confirmation function to confirm the position of the center of the blood vessel with simultaneously formed receive beams (Col 12 Line 5 – Col 13 Line 32). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used such a monopulse power difference technique of Nudell et al in the Doppler system of Fraser et al for the purpose of confirming the relative positions and accuracy of the received beams.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joel M. Lamprecht whose telephone number is (571) 272-3250. The examiner can normally be reached on Monday-Friday 7:30AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ruth S. Smith/  
Ruth S. Smith  
Primary Examiner  
Art Unit 3737

JML